

YELLOW-EARED POCKET MOUSE

Perognathus xanthonotus

Author: David Laabs, Biosearch Wildlife Surveys, Box 8043, Santa Cruz, CA 95061

Management Status: Federal: BLM Sensitive
California: None

General Distribution:

The yellow-eared pocket mouse, also called the Walker Pass pocket mouse, inhabits the eastern slopes of the Piute Mountains and Sierra Nevada along the western fringe of the Mojave Desert. The species has been recorded between Kelso Valley on the south and Sand Canyon on the north (Hall, 1981; Williams et al., 1993; Laabs, et al. 1990).

P. xanthonotus is a member of the *parvus* species-group, which also includes the Great Basin pocket mouse (*P. parvus*) and the white-eared pocket mouse (*P. alticola*). The yellow-eared pocket mouse was first described from near Walker Pass (Grinnell, 1912), and has been treated as a separate species by many subsequent authors (Ingles, 1965; Hall, 1981; Verts & Kirkland, 1988; Nowak, 1991; Zeiner et al., 1990). However, based on morphological and karyological similarities, others have concluded that *P. xanthonotus* is not sufficiently differentiated from *P. parvus*, and have included it as a subspecies of the latter (Honacki et al., 1982; Sulentic, 1983; Williams et al., 1993). All members of the *parvus* species group share a diploid number of chromosomes of 54 although *P. xanthonotus* possesses a different number of autosomal arms than *P. parvus olivaceous*, its closest neighbor to the north (Patton and Rogers, 1993). It has been speculated that the ranges of these two forms overlap narrowly along the eastern front of the Sierra Nevada (Williams et al, 1993).

Distribution in the West Mojave Planning Area:

Most of the range of the Yellow-eared pocket mouse is within the WMPA on the eastern slope of the Sierra Nevada and Piute Mountains. The species is known from Kelso Valley, Horse Canyon, Sage Canyon, Freeman Canyon, Indian Wells Canyon and Sand Canyon. Similar habitat, which may harbor the species, is present both north and south of this region, as well as in intervening canyons.

Natural History:

The yellow-eared pocket mouse is a large-sized member of the genus, averaging approximately 165.3 mm (6.5 inches) in total length. The pelage is ochraceous buff slightly overlaid with black dorsally. The feet and underparts are white. The inside of the ear is whitish, and a conspicuous spot at the base of the ear is white. The ochraceous lateral line and dark facial markings are faint. The tail is faintly bicolored, ending in a small tuft, and slightly longer than the length of the head and body. *P. xanthonotus* can be distinguished from the little pocket mouse (*P. longimembris*) and the San Joaquin pocket mouse (*P. inornatus*), with which it may be sympatric, by lobes at the base of the ears,

larger overall size, relatively less inflated auditory bullae, and relatively broader interorbital breadth. *P. xanthonotus* is distinguished from the Tehachapi pocket mouse (*P. alticola inexpectatus*) by its lighter colored dorsal pelage, larger size and a relatively larger interparietal. *P. xanthonotus* differs from the Great Basin pocket mouse (*P. parvus olivaceous*) by its smaller size, and relatively smaller auditory bullae (Grinnell, 1912; Hall, 1981).

There is little information regarding the ecology of the yellow-eared pocket mouse, but it is expected to be similar to the closely related Great Basin pocket mouse, *P. parvus*. The Great Basin pocket mouse generally reproduces between March and September, normally producing a single litter each year. Reproduction may be curtailed in dry years. *P. parvus* generally forages on seeds and fruit of a variety of grasses, annuals, forbs and shrubs. Seeds are cached during the spring and summer to provide food during the winter months. Insects may also be part of the diet, at least seasonally (Ingles, 1965; Verts and Kirkland, 1988). The yellow-eared pocket mouse is uncommon compared to the other small mammals with which it occurs (Williams, 1986; Laabs et al, 1990). Other members of the species group hibernate during the winter, and it is presumed that this species does also (Zeiner et al., 1990). This restricted surface activity, which along with patchy distribution, makes the species difficult to detect during certain times of the year.

Habitat Requirements:

Little information is available regarding habitat requirements of the yellow-eared pocket mouse. The species has been found Joshua tree woodland, desert scrub, pinyon-juniper, mixed and montane chaparral, sagebrush and bunchgrass habitats (Grinnell, 1912; Williams et al., 1993). It occurs primarily in sandy soils with sparse to moderate shrub cover (Zeiner et al., 1990). Elevations of known localities range between 1030-1615 m (3380-5300 feet; Hall, 1981; CNDDDB; Zeiner et al., 1990).

Population Status :

The yellow-eared pocket mouse has been recorded from several canyons along the eastern slope of the Piute Mountains and Sierra Nevada, specifically Kelso Valley, Horse Canyon, Sage Canyon, Freeman Canyon, Indian Wells Canyon and Sand Canyon. Similar habitats are available in canyons both north and south of this range, as well as in intervening canyons. Additional trapping is necessary to determine the current distribution of the species. Some of these canyons remain relatively undisturbed, while others, including Sand Canyon, receive recreational use.

Threats Analysis:

Given the small range of the yellow-eared pocket mouse, any habitat disturbance of its known or suspected habitat could have significant deleterious effects. Cattle and sheep grazing may pose a potential threat due to the effects on plant assemblages or erosion of soils. Off-highway vehicle activity and mineral extraction are other potential threats, due to their effects on native vegetation. Most of the canyons supporting the species have roads and are therefore accessible. Wind-energy production also poses a potential threat, resulting from impacts associated with road networks. These activities

should be studied further to determine the extent to which they affect yellow-eared pocket mice and their habitat.

Biological Standards:

Additional data concerning the current distribution and habitat requirements of the yellow-eared pocket mouse are necessary to evaluate the status of the species and to focus conservation measures. The species has been identified in only six localities (Kelso Valley, Horse Canyon, Sage Canyon, Freeman Canyon, Indian Wells Canyon and Sand Canyon), most of which are under BLM administration. Human activities in these canyons should be identified and their impacts on yellow-eared pocket mouse habitat assessed. Uses deemed detrimental to the species should be restricted. The presence of this species in the canyons to the north and the south of this core area, as well as in the intervening canyons (e.g. Dove Spring Canyon, Bird Spring Canyon, Grapevine Canyon) should be determined. The extent of suitable habitat and linkages between subpopulations in individual canyons should be identified. The taxonomic relationships of this pocket mouse with other members of the species complex need to be clarified.

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